

REMARKS/ARGUMENTS

Upon entry of the instant amendment, claims 12, 15 and 18-28 are under consideration in the instant application.

New claims 23-28 have been added. Support may be found in Figures 1 and 2, and the accompanying description. No new matter has been added.

Objections to the Drawings

The Examiner has objected to the drawings as failing to show microphones, thermal sensors and gas sensors in the claims. Applicant has amended Figure 3 to show signals from these sensors (attached) and also has amended the descriptive text for Figure 3 accordingly. No new matter has been entered.

Rejections Under 35 U.S.C. §112, paragraph one

The Examiner has rejected claim 21 for lack of description in the specification, as the specification fails to teach "wherein said imaging sensor is selected from the group consisting of microphones, thermal sensors and gas sensors".

While continuing to traverse the rejections of the Examiner, Applicant has chosen to amend claim 21 to recite "further comprising an additional ~~wherein said imaging~~ sensor ~~[[is]]~~ selected from the group consisting of microphones, thermal sensors and gas sensors". Support may be found in paragraphs 14 and 15 of the application as published. Applicant believes that this overcomes the Examiner's rejections in this regard.

Rejections Under 35 U.S.C. §112, paragraph two

The Examiner has rejected claim 21 as being indefinite for reciting "wherein said imaging sensor is selected from the group consisting of microphones, thermal sensors and gas sensors", although an imaging sensor cannot be selected from such a group.

While continuing to traverse the rejections of the Examiner, Applicant has chosen to amend claim 21 to recite "further comprising an additional ~~wherein said imaging~~ sensor ~~[[is]]~~ selected from the group consisting of microphones, thermal sensors and gas sensors". Support may be found in paragraphs 14 and 15 of the application as published. Applicant believes that this overcomes the Examiner's rejections in this regard.

Rejections Under 35 U.S.C. §102

The Examiner has rejected claims 12, 15, 18 20 and 22 under 35 U.S.C. 102(b), as being anticipated by Pirak (US 5400771). The rejections of the Examiner are respectfully traversed.

The Examiner states that Pirak discloses a sensor at the anterior face of the tube. However, as shown in the device of Pirak, it cannot feature "at least one imaging sensor [is] incorporated in the anterior face of said tube". Instead, the imaging sensor is located far away from the tip and fiber optics are provided, running from the tip (end cap 22) and along the tube, as shown for example in Figure 1. This is a disadvantage because the location of the fiber optics means that they may break more easily; the device also cannot be used for continuously monitoring a patient because of the safety issue due to the potential for breakage of such fiber optics. The Pirak device has been taken off the market by Pulmonx (the manufacturer); it is Applicant's belief that this fragility and safety problem is the reason that the device was taken off the market.

By contrast, as recited in claim 12 (presently the only independent claim), the presently claimed invention features "at least one imaging sensor is incorporated in the anterior face of said tube". Such an arrangement is clearly shown in Figures 1 and 2 of the present application. Thus, claim 12 is novel and non-obvious over Pirak as it

provides a safer and more effective endotracheal tube for continuous monitoring, without the safety issues of Pirak.

Claims 15 and 18-25 depend from claim 12 and hence are also novel and non-obvious over Pirak. New claims 23-25 provide additional recitations that further distinguish the presently claimed invention over Pirak. Applicant believes that this overcomes the Examiner's rejections in this regard.

New claims 26 and 28 are independent claims that recite that "said tube is an endotracheal tube having a proximal end inserted to the body of the patient and a distal end protruding from the body of the patient, wherein at least one imaging sensor is incorporated at the proximal end of said tube" (claim 26); or "at least one imaging sensor is incorporated in said tube such that said at least one imaging sensor is inserted within a trachea of the body of the patient" (claim 28). Both recitations are clearly distinguishable from Pirak for the reasons given above, as unlike Pirak, the imaging sensor is either explicitly recited as being at a proximal end of the tube (while the sensor of Pirak is at the distal end) or as being within the trachea of the patient, which cannot be true for the device of Pirak. Thus these claims are clearly novel and non-obvious over Pirak.

New claim 27 depends from claim 26 and provides an additional recitation that further distinguishes the presently claimed invention over Pirak. Applicant believes that this overcomes the Examiner's rejections in this regard.

Rejections Under 35 U.S.C. §103

The Examiner has rejected claim 19 under 35 U.S.C. 103, as being unpatentable over Pirak in view of Hill (US 2003/0078476). The rejections of the Examiner are respectfully traversed.

As noted above Pirak fails to teach "at least one imaging sensor [is] incorporated in the anterior face of said tube". Hill also fails to teach "at least one imaging sensor [is] incorporated in the anterior face of said tube"; Hill also fails to teach "said tube is an endotracheal tube having a proximal end inserted to the body of the patient and a distal end protruding from the body of the patient, wherein at least one imaging sensor is

incorporated at the proximal end of said tube" (claim 26); or "at least one imaging sensor is incorporated in said tube such that said at least one imaging sensor is inserted within a trachea of the body of the patient" (claim 28);. Thus Hill cannot cure the deficiency of Pirak. Thus, for the reasons given above, claims 12, 26 and 28 are novel and non-obvious over Pirak and Hill, alone or in combination.

Claims 15 and 18-25 depend from claim 12, while claim 27 depends from claim 26, and hence are also novel and non-obvious over Pirak and Hill, alone or in combination. Applicant believes that this overcomes the Examiner's rejections in this regard.

The present response is intended to be fully responsive to all points of objection raised by the Examiner and is believed to place claims 12, 15 and 18-25 in condition for allowance. Favorable reconsideration and allowance of the Application is respectfully requested.

CONCLUSION

Applicant believes that the claims are in condition for allowance. If the Examiner believes that a telephonic interview with the undersigned would expedite prosecution of this application, the Examiner is cordially invited to call the undersigned at (301) 952-1011. Please charge any fees associated with this paper to deposit account No. 50-4801.

Respectfully submitted,

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